

**REMARKS**

This Application has been carefully reviewed in light of the Final Office Action dated January 24, 2008 ("*Office Action*"). At the time of the *Office Action*, Claims 1-20 were pending and rejected in the Application. Applicant amends Claims 1, 8, 9, 15, and 18. As described below, Applicant believes all claims to be allowable over the cited references. Therefore, Applicant respectfully requests reconsideration and full allowance of all pending claims.

**Section 103 Rejections**

The Examiner rejects Claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,491,687 issued to Christensen et al. ("*Christensen*") in view of U.S. Patent Application Publication No. 2004/0052257 issued to Adbo et al. ("*Adbo*"). For the reasons discussed below, Applicant requests reconsideration and allowance of Claims 1-20.

Independent Claim 1 of the present Application, as amended, recites:

A method for error detection in a high-speed switching environment, comprising:  
receiving, at a switch input port, a plurality of packets, including a first packet having at least first and second portions;  
initiating switching of the first portion before the entire second portion is received at the switch input port;  
using tag data associated with the first packet to calculate error detection data for the first packet, the error detection data calculated at the switch before the entire second portion is received at the switch input port;  
and  
at the switch, inserting the error detection data calculated using the tag data into the plurality of packets;  
performing an error detection technique on the first packet using the error detection data that was calculated using the tag data associated with the first packet.

Applicant respectfully contends that neither *Christensen* nor *Adbo* (nor their proposed combination) discloses the combination of elements recited in Applicant's Claim 1.

For example, the proposed *Christensen-Abdo* combination does not disclose, teach, or suggest “using tag data associated with the first packet to calculate error detection data for the first packet, the error detection data calculated at the switch before the entire second portion is received at the switch input port,” as recited in Claim 1. In the *Office Action*, the Examiner acknowledges that *Christensen* discloses only the examination of frames for errors but does not disclose the recited claim elements. The Examiner relies upon *Abdo*, specifically, for disclosure of Applicant’s step of “using tag data associated with the first packet to calculate error detection data for the first packet, the error detection data calculated at the switch before the entire second portion is received at the switch input port.” Applicant respectfully submits, however, that *Abdo* does not disclose, teach, or suggest the recited language.

Rather, *Abdo* merely discloses that the cells are “developed with only a header cyclic redundancy code (CRC) instead of a CRC at the end of a long packet as is used in frame relay.” (*Abdo*, page 6, paragraph 47). Thus, although *Abdo* discloses that “outbound forwarding of a cell can begin as soon as the VPI/VCI is verified without having to receive a long packet in its entirety . . .” (*Abdo*, page 6, paragraph 47), *Abdo* only discloses that the cells include a header CRC instead of a CRC. There is no disclosure in *Abdo* of “using **tag data** associated with the first packet **to calculate** error detection data for the first packet, **the error detection data calculated at the switch** before the entire second portion is received at the switch input port,” as recited in Claim 1. Accordingly, for at least this reason, Applicant respectfully submits that Claim 1 is allowable over the proposed *Christensen-Abdo* combination.

As another example, the proposed *Christensen-Abdo* combination does not disclose, teach, or suggest “at the switch, inserting the error detection data calculated using the tag data into the plurality of packets,” as recited in Claim 1. *Christensen* merely relates to a “LAN switch that automatically changes from a cut-through mode of operation to a store-and-forward mode of operation in response to the detection of a frame error rate

which exceeds a predetermined threshold, and automatically changes back to cut-through operation in response to an error rate that is less than a predetermined threshold.” (Column 2, line 67 through Column 3, line 5). The process, as disclosed in *Christensen* includes “initially setting the LAN switch to operate in the cut-through mode . . . because this is the most efficient mode of operation for the LAN switch.” (Column 5, lines 31-35). “Next, a frame is examined for errors as such a frame passes through the LAN switch from a source LAN segment to a destination LAN segment.” (Column 5, lines 37-39). If a frame error is detected, “the LAN switch examines a frame for errors as that frame passes through the LAN switch from a source LAN segment to a destination LAN segment.” (Column 5, line 66 through Column 6, line 2). For each frame error, a “total frame count is incremented.” “After the same period has expired, the process enters . . . the determination of whether or not to switch from the “cut-through” mode to a “store-and-forward” mode.” (Column 6, lines 18-22). Thus, *Christensen* merely discloses examining frames for errors and if errors exceed a threshold switching from “cut-through” mode to “store-and-forward” mode. *Christensen* does not disclose, teach, or suggest “at the switch, inserting the error detection data calculated using the tag data into the plurality of packets,” as recited in Claim 1.

The additional disclosure of *Abdo* does not make up for the deficiencies of *Christensen*. As noted above, *Abdo* merely discloses that the cells are “developed with only a header cyclic redundancy code (CRC) instead of a CRC at the end of a long packet as is used in frame relay.” (*Abdo*, page 6, paragraph 47). There is no disclosure that the cells are “developed” at the switch or that “developing” the cells includes “at the switch, inserting the error detection data calculated using the tag data into the plurality of packets,” as recited in Claim 1. Because neither *Christensen* nor *Abdo* disclose, teach, or suggest these claim elements, Applicant submits that Claim 1 is allowable over the proposed *Christensen-Abdo* combination for at least these additional reasons.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of Claim 1.

The Examiner also relies on the proposed *Christensen-Abdo* combination to reject independent Claims 9 and 18. Applicant respectfully submits, however, that the proposed references do not disclose, teach, or suggest the combination of elements recited in Applicant's independent Claims 9 and 18. For example, Claim 9 recites "a switch core operable to . . . use tag data associated with the first packet to calculate error detection data for the first packet, the error detection data calculated by the switch core before the entire second portion is received at the switch input port." Claim 9 also recites that the "switch core [is] operable to . . . insert the error detection data calculated using the tag data into the plurality of packets." As another example, Claim 18 recites "a detection module being operable to perform an error detection technique on the packet using error detection data inserted into the first portion of the packet before an associated second portion of the packet is received by the plurality of input structures, the error detection data calculated at the switch using tag data associated with the packet and inserted into the packet at the switch." Thus, for reasons similar to those discussed above with regard to Claim 1, Applicant respectfully submits that independent Claims 9 and 18 are allowable over the proposed *Christensen-Abdo* combination.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 9 and 18.

Dependent Claims 2-8, 10-17, and 19-20 depend on Claims 1, 9, and 18, respectively. Accordingly, dependent Claims 2-8, 10-17, and 19-20 are not obvious over the proposed the proposed *Christensen-Abdo* combination at least because Claims 2-8, 10-17, and 19-20 include the limitations of their respective independent claims, which Applicant has shown above to be allowable.

Additionally, dependent Claims 2-8, 10-17, and 19-20 include claim elements that further distinguish the art. As examples, Claim 4 recites "looking up a tag ID for association with the first packet," and Claim 5 recites "assigning the tag ID to the first

packet.” Claims 10 and 11 recite certain analogous features and operations. With respect to each of these claims, the Examiner relies upon column 5 of *Christensen* for disclosure of the recited claim language. (*Office Action*, page 4). However, *Christensen* merely discloses a LAN switch is initially set “to operate in the cut-through mode . . . because this is the most efficient mode of operation for the LAN switch.” (Column 5, lines 31-35). “Next, a frame is examined for errors as such a frame passes through the LAN switch from a source LAN segment to a destination LAN segment.” (Column 5, lines 37-39). If a frame error is detected, “the LAN switch examines a frame for errors as that frame passes through the LAN switch from a source LAN segment to a destination LAN segment.” (Column 5, line 66 through Column 6, line 2). For each frame error, a “total frame count is incremented.” “After the same period has expired, the process enters . . . the determination of whether or not to switch from the “cut-through” mode to a “store-and-forward” mode.” (Column 6, lines 18-22). Thus, *Christensen* merely discloses examining frames for errors, keeping track of the number of errors, and if errors exceed a threshold switching from “cut-through” mode to “store-and-forward” mode. There is no disclosure in *Christensen* of “a tag ID” associated with a frame. Further, there is no disclosure in *Christensen* of “looking up a tag ID for association with the first packet,” as recited in Applicant’s Claim 4 and analogously recited in Claim 10. Similarly, there is no disclosure in *Christensen* of “assigning the tag ID to the first packet,” as recited in Claim 5 and analogously recited in Claim 11.

As still further examples, Claim 8 recites “wherein the cyclical redundancy checksum technique includes recalculating a CRC of the first packet based only upon changes in the tag data of the first packet.” Claim 15 recites certain analogous features and operations. In the *Office Action*, the Examiner acknowledges that *Christensen* does not disclose the recited claim elements. Instead, the Examiner relies upon the disclosure of *Abdo*, specifically, for disclosure of “recalculating a CRC of the first packet based only upon changes in the tag ID of the first packet,” as recited in Claim 8. As noted above, however, *Abdo* merely discloses that the cells are “developed with only a header cyclic redundancy code (CRC) instead of a CRC at the end of a long packet as is used in frame

relay.” (*Abdo*, page 6, paragraph 47). The mere disclosure of incorporating a header CRC instead of a CRC into a packet is not analogous to “**recalculating** a CRC of the first packet **based only upon changes in the tag data of the first packet**,” as recited in Claim 9 and analogously recited in Claim 15. Applicant respectfully submit that these claim elements are absent from the disclosures of *Christensen* and *Abdo*.

For at least these reasons, Applicants respectfully request reconsideration and allowance of Claims 2-8, 10-17, and 19-20.

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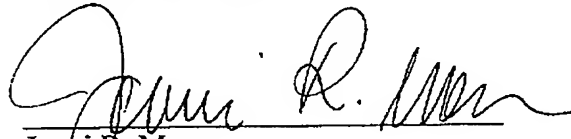
**CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Jenni R. Moen, Attorney for Applicant, at the Examiner's convenience at (214) 953-6809.

Applicant believes that no fees are due. However, the Commissioner is hereby authorized to charge any fees or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,  
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